

STATEMENT OF BASIS

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0122696
to discharge to waters of the State of Louisiana.

AI No.: 4278 / Activity No.: PER20070001

THE APPLICANT IS: Village of Maurice
Maurice Water Treatment Plant
P.O. Box 128
Maurice, Louisiana 70555

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Bonnie Fleming

DATE PREPARED: March 12, 2007

1. PERMIT STATUS

- A. LPDES permit - LPDES permit effective date: NA
LPDES permit expiration date: NA
EPA has not retained enforcement authority.
- B. LWDPS permit - NA
LWDPS permit effective date: NA
LWDPS permit expiration date: NA
- C. Date Application Received: January 19, 2007

2. FACILITY INFORMATION

A. FACILITY TYPE/ACTIVITY - potable water treatment plant

The Maurice Water Treatment Plant is an existing water treatment facility in Maurice, Vermilion Parish. Source water is from ground water wells. The raw water is injected with chlorine gas and potassium permanganate. The water is then sent through the pressure filters and then to the softeners. After the softeners, the water will be pumped in to ground storage tanks and elevated storage tower on site before it is distributed.

The filters are backwashed and the softeners regenerated with a brine solution. The backwash and flows from the filter and softeners are sent to a dilution pond. Sanitary wastewater from the facility is discharged to the local POTW.

B. FEE RATE

- 1. Fee Rating Facility Type: minor
- 2. Complexity Type: I
- 3. Wastewater Type: III

4. SIC code: 4941

C. LOCATION - Intersection of West Corine Street and Lastie Avenue,
Maurice, Vermilion Parish
Latitude +30° 06' 18", Longitude -92° 07' 33"

3. **OUTFALL INFORMATION**

Outfall 001

Discharge Type: Filter and Softener Backwash

Treatment: Dilution tank

Location: at the point of discharge from the dilution tank prior to mixing with other waters

Flow: 18,000 GPD

Discharge Route: via pipe to local drainage, thence to Granges Coulee

NOTE: This facility does not require storm water permit coverage because it does not discharge regulated storm water. The facility's SIC code, 4941, is not listed in the storm water regulations at LAC 33:IX.2341.B.14.a-k and therefore the storm water runoff from the site is not classified as regulated industrial storm water.

4. **RECEIVING WATERS**

STREAM – Outfall 001 – to Granges Coulee

HARMONIC MEAN – 1 cfs (see attached March 06, 2007, Memorandum from Brian Baker to Bonnie Fleming)

BASIN AND SEGMENT – Vermilion River Basin – Subsegment 060802

IN STREAM CHLORIDE STANDARD for Vermilion River – 230 mg/l

DESIGNATED USES -

- a. primary contact recreation
- b. secondary contact recreation
- c. propagation of fish and wildlife
- d. agriculture

5. **EXISTING EFFLUENT LIMITS**

NA; facility not previously permitted

6. **PROPOSED EFFLUENT LIMITS**

BASIS – See rationale below.

7. COMPLIANCE HISTORY/COMMENTS

A. Compliance History

None

B. DMR Review/Excursions

NA; facility not previously permitted

8. ENDANGERED SPECIES

The receiving waterbodies and proposed discharge are not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 29, 2006 from Watson (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

9. 303 (d) LISTED WATERBODIES

Subsegment 060802, Vermilion River, is not listed on LDEQ's Final 2004 303(d) list as impaired. However, subsegment 060802 was previously listed as impaired for organic enrichment/low DO, suspended solids/turbidity/siltation, turbidity, for which the below TMDLs have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDLs and/or water quality studies. The LDEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDLs have been established for subsegment 060802:

TMDL for Oxygen Demanding Nutrients

Seasonal TMDLs have been established for the Summer Season and the Winter Season for CBOD₅ and NH₃-N. The TMDLs only apply to certain dischargers who were included in the seasonal models. This permit is for discharges from a potable water treatment plant which does not discharge nutrients. The Water Treatment Plant does not have a sanitary discharge and it has been determined that no activities at the facility will contribute to the addition of nutrients to the system which has been identified causing the dissolved oxygen impairment of the water body.

TMDL for TSS, Turbidity & Siltation

The TMDL document states that "Given that there is no criterion for TSS in the Louisiana water quality standards and there is a moderate to strong relationship between turbidity and TSS as evidenced by the correlation coefficients shown in Table 3, a listing under both parameters is considered here to be duplicative. ... EPA believes that since this duplicity occurs regularly it supports the belief that these duplicate listings were likely attributable to different ways of expressing the same concern of water impairment by different individuals charged with preparing 305(b) reports, 303(d) lists, or 319 assessments." In this TMDL, TSS was used as an indicator for siltation or bottom deposits resulting from inorganic sediment loads.

The TMDL only addresses TSS from the landform contribution of TSS/sediment and does not address the insignificant point source contribution. The point sources are minor contributors and discharges of organic suspended solids from point sources are already addressed by LDEQ through their permitting of point sources to maintain water quality standards. Therefore, the LPDES permit limitations for TSS are sufficient to protect the water body from a source which is considered by the TMDL document to be an insignificant point source contribution.

TMDL for Carbofuran

The TMDL is based on EPA developed numeric targets appropriate for freshwater (0.13 µg/l) and marine (0.23 µg/l) environments. It states that "no introduction of carbofuran, which causes local concentrations to be greater than the numeric target, will be authorized. Ambient monitoring for carbofuran will be conducted for three years to obtain additional data. At the end of three years, the data will be analyzed to determine compliance with the numeric target for freshwater and marine environments." This facility will not be a source of carbofuran; therefore its operation should not have any impact on the carbofuran concentration in the water body or on future development of TMDLs for this broad spectrum carbamate pesticide.

10. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

11. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

12. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation
Office of Environmental Services Public Notice Mailing List

Rationale for Water Treatment Plant

1. **Outfall 001** – filter backwash and softener backwash

<u>Pollutant</u>	<u>Limitation*</u> Mo. Avg: Daily Max (mg/l)	<u>Reference</u>
Flow (GPD)	---: Report	LAC 33:IX.2361.I.1.b
Chlorides	6406: 15208	Water Quality**
Total Recoverable Iron	---: Report	Similar discharges** (BPJ)
Clarifying Agents Used	---: Report	Similar discharges** (BPJ)
TSS	30: 45 mg/l	Similar discharges** (BPJ)
pH	6.0 - 9.0 su	Similar discharges** (BPJ)

Treatment: Dilution tank

***Monitoring Frequency:** Once per quarter for Total Recoverable Iron; once per month for Flow, Chlorides, Clarifying Agents, TSS, and pH at the point of discharge into local drainage, thence to Granges Coulee prior to mixing with other waters.

****Limits Justification:** For all parameters except Chlorides, limits and monitoring frequencies are based on the general permit for potable water treatment plants (LAG380000) effective on January 1, 2005, raw water from ground water sources. A water quality screen (attached) was performed to calculate the water quality based limit for chlorides.

The receiving waterway (local drainage to Granges Coulee) is not listed by name in the Numerical Criteria and Designated Use Table (LAC 33:IX.1123 Table 3); therefore, the allowable in-stream chloride standard of 250 mg/l will be used (LAC 33:IX.1113.C.2). Based on known tolerances for agricultural usages, this level will be protective of all uses of the waterway.

Receiving stream flow was established for Granges Coulee by the engineering support group at 0.0 cfs 7Q10 and 1 cfs harmonic mean. (See attached MEMORANDUM 03/06/2007, Brian Baker to Bonnie Fleming.)

The harmonic mean, rather than the critical flow, was used for calculating the permit limitations for the chloride discharges in accordance with LAC 33:IX.1115.C.8, which states "For chlorides, sulfates and total dissolved solids, criteria are to be met below the point of discharge after complete mixing. Because criteria are developed over a long-term period, harmonic mean flow will be applied for mixing."

Page 7 of the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standard provides, under Harmonic Mean Flow, that a harmonic mean value of 1 cfs shall be the default harmonic mean flow when harmonic mean value is ≤ 1 cfs, for streams not designated intermittent at LAC 33:IX.1123, Table 3. Therefore, a harmonic mean value of 1 cfs was used in the calculations to determine the appropriate water quality based limit for chlorides.

The calculation yielded a value of 6,406 mg/l (Monthly average) and 15,208 mg/l (daily maximum). It was determined that a water quality based permit limitation is necessary to maintain the in-stream standard of 250 mg/l which was established to protect of the use of the water body as primary and secondary contact recreation, fish and wildlife propagation, and agriculture.

Note: The Potable Water Treatment Plant General Permit is not appropriate for this facility because the facility treats the raw water by means of a zeolite ion exchange in the softening process. The zeolite is recharged using a sodium chloride solution which produces a high chloride concentration in the wastewater. Therefore a facility specific permit is required to determine the appropriate water quality based permit limit for discharges of chlorides.

* Based on current guidance for new permits discharging into a waterbody listed on the Court Ordered 303(d) list.

BPJ Best Professional Judgment

GPD Gallons per Day

su Standard Units

NOTE

For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

Storm Water Pollution Prevention Plan (SWP3) Requirement

Discharges from this facility are not classified as industrial storm water per LAC 33:IX.2341.B.14. Therefore, the Storm Water Pollution Prevention Plan (SWP3) requirement is not included in this permit.

However, per LAC 33:IX.903.B, all above ground storage tanks with a capacity of 660 gallons for an individual container or 1320 for multiple containers, must have secondary containment and a Spill Prevention and Control Plan.